Wood Waste: How to Keep Wood Waste Out of Landfills

Wood? Why Would You?

Although wood is a renewable resource, conservation is essential to forest conservation and environmental protection. We all benefit from keeping wood out of landfills, and there are plenty of options to disposal.

Wood waste comes from both commercial and residential activities. It can include scrap lumber, pallets, sawdust, tree stumps, branches, and twigs. Some sources of wood waste are building construction and demolition, wooden crates and pallets, furniture manufacturing, old movie sets, landscaping, lumber mills, and branches and trees removed from orchards. The construction and demolition of buildings generates almost twelve percent of all solid waste in California. Yard waste such as grass and leaves is not usually considered wood waste.

Businesses that generate wood waste can save money by not sending waste to landfills. The average fee for disposing of a ton of waste in a California landfill is about $30 to $35, but disposing of a ton of wood at a wood processing facility may only cost one-third of this amount. Some wood waste processors do not charge for loads of clean wood.

Wood can be reused. Wood can be recycled to make new products. Wood that is composted makes excellent compost and soil amendments, which conserves water, reduces erosion, and lessens or eliminates the need for fertilizer.

What's Best?

When given a choice, it is always better to avoid the need to discard wood.

When discarding cannot be avoided, the next best thing is to find another use for the discards where the wood will undergo the least possible amount of change or processing before it is reused.

If this is not an option, the next best thing is to find a manufacturer that will recycle the wood by grinding it up to make something else out of it, or decompose the wood for use as compost or soil amendments.

If the wood can be neither reused nor recycled, the next best thing is to find a biomass-to-energy producer that can make electricity with the wood. The least favored option is sending material to a landfill.

Waste Reduction. Preventing wood waste starts with efficient use. If you own a house or building made with wood, proper maintenance can eliminate the need to replace windows, doors, siding, and structural components. Keep the wood painted and keep joints and cracks sealed where rain can seep in.

Look for ways to reduce the amount of scrap left over from building projects, and reuse what is left. When it is necessary to purchase new wood or wood products, choose those that are durable and repairable.

Use salvaged lumber when possible. Reduce the demand for large dimensional timber. Help recycle manufacturing waste with new building technologies and products such as finger-jointed lumber, oriented strand board, and engineered wood fiber products. For docks and other marine applications, consider longer-lasting alternatives to wood such as recycled plastic lumber.

See the recycled-content product directory for products made from recycled material at www.ciwmb.ca.gov/RCP/.

Reuse. Consider donating scrap lumber to a high school wood shop. Pallets and wood shipping boxes can be repaired and reused over and over. The demolition of an old fence can yield beautifully weathered wood for landscaping projects. Some treated woods, such as railroad ties

and utility poles, are well suited for reuse. These can be used to build fences, bridges, and barriers in parking areas, or to provide erosion control. Those who reuse treated wood should be aware of possible soil and water contamination and public health concerns related to treatment with chromate copper arsenate (CCA). Lead paint can also be a hazard.

On February 12, 2002, the U.S. Environmental Protection Agency announced that by January 2004 wood products treated with CCA will not be allowed for residential uses. However, although CCA-treated wood may disappear from stores, it will most likely be present in demolition projects for many years.

The California Materials Exchange (CalMAX) at www.ciwmb.ca.gov/CalMAX/ might help you find others that can use your wood waste. The materials collection database at www.ciwmb.ca.gov/ConDemo/Recyclers/ can help you find construction and demolition recycling facilities in your area.

Recycling. Wood waste that cannot be used in its original form can be processed into a variety of products. These include compost for soil improvement, mulch for weed control, sawdust for animal bedding, wood flour for cleaning up spills, wood chips for landscaping or trail stabilization, and fuel pellets or pressed wood fireplace logs for wood stoves.

Although currently many fiberboard products require homogeneous wood, emerging technologies will allow a variety of wood wastes and other fibers to be used in fiberboard production. Ground wood, an excellent bulking agent and moisture regulator for compost, can be used in composting toilets or co-composted with food processing waste or sewage sludge.

Biomass to Energy. About two dozen facilities in California burn wood waste to generate electricity. Therefore, depending on the wood waste generator's proximity to one of these markets, the use of waste wood as a fuel to produce steam or electricity may be an economically attractive alternative to disposal in a landfill. Although the combustion of any fuel results in emissions, wood burns relatively "cleanly" compared to most fossil fuels. However, due to current energy and economic policies and the end of subsidized rates for biomass power, these facilities have lately played a less significant role.

For more information on biomass-to-energy facilities and other new technologies that might be able to use woody debris to produce energy and alternative fuels, see www.ciwmb.ca.gov/Organics/Conversion/.

Developing a Wood Waste Reduction Program

Setting up a wood waste reduction program for your company or community may be as simple as brainstorming for local reuse opportunities or talking to your waste hauler.

Start by looking for prevention and local reuse opportunities. A volunteer or community group may be able to help coordinate transportation of donated wood. Waste haulers sometimes also have contacts with local wood waste processors. The phone book might direct you to wood waste processors.

To match your needs and a processor's services, you'll need to consider the following issues:

1. How much waste wood do you generate? This will determine how often collection and transportation are needed and what will be necessary to accomplish this. Wood waste processors offer a variety of services such as rolloff containers, pickup service, and mobile chipping. They will also offer a variety of contract options. Would an occasional trip to the processor in the company pickup truck suffice, or would a weekly rolloff bin pickup be in order?

2. When do you generate wood waste? How consistently do you generate wood waste? Seasonal fluctuation may affect agreements with your processor. For example, the wood waste generated by a particular landscaper may have periods of high generation during certain seasons, depending on tree maintenance. Construction contractors tend to have high generation during the summer months, with a notable decrease during winter.

   A Christmas tree recycling program can mean a sudden increase in January. Be sure your processor can accommodate these seasonal "spikes." Wood waste is often generated by a single event, such as by a homeowner who removes a tree or remodels a kitchen. Some

wood waste processors accept loads of clean wood waste from individuals and small companies, not just large generators. Local governments and businesses can team up to produce brochures and ads to encourage one-time generators to do their part to keep wood out of the landfill.

3. What types and sizes of wood do you generate? Due to the variety of generation sources, mixed wood makes up the majority of the wood waste stream. However, if a particular waste stream is comprised of one type of wood (pine, oak, walnut, cherry, etc.), it may be suited for a specific end use. For example, particleboard manufacturers require wood of all the same type and may accept or even buy clean, homogeneous loads.

   Uniformity of size and shape can also affect end use. Schools, theater groups and church organizations are often willing recipients of usable lumber for building projects. Pre-chipped wood is desirable for landscaping and trail demarcation. Most processors have chipping or grinding equipment to reduce waste wood to uniform size, so randomly sized wood is not a problem.

   However, the size of the processing equipment does limit how large a piece of wood a processor can accept. A small chipper can usually handle pieces up to 4 inches in diameter and of various lengths. Large tub grinders may handle up to 8 inches in diameter and 6 feet long. Some processors will accept larger pieces, such as stumps or beams, for an extra charge.

4. How clean is your wood? The question of cleanliness is complex because each wood waste processor has its own criteria for accepting wood waste. Usually they look for wood that is free of contaminants such as dirt, rock, concrete, plastic, metal, and other contaminants, which can damage wood waste processing equipment. Some processors will accept loads with contaminants, but at a higher fee to accommodate separation.

   Many processors will not accept wood that has been chemically treated with CCA or painted with lead paint. This is because of health risks posed by chrome, copper, arsenic, and lead. CCA-treated wood is not suitable for incineration or for composting. Fibrous plants also cause problems for wood waste processors.

   Palm, yucca, pampas grass, and other fibrous plants can become entangled in processing equipment and cause damage. Poison ivy and oak,, as well as oleander and other poisonous plants, might not be accepted by some wood waste processors. Plants such as ivy and ice plant, which decompose slowly, may be refused by some processors who use wood waste for composting operations or mulch.

In general, the cleaner the wood waste, the more management options. But remember that acceptance criteria vary from processor to processor, so if one does not accept what you have to offer, another might.

What If There Are No Processors in My Area?

Sometimes there won't be a processor within a hauling distance that is economically feasible. Generators in these areas might benefit from some "networking" to learn if combining loads of wood waste would make it feasible for an outside processor to haul away the wood. Another more ambitious option might be for generators to research possible end markets for wood waste products they could make themselves. This might require some capital investment, such as purchase of a mobile processor or grinder.

How It All Stacks Up

Your company or community's wood waste reduction program can conserve natural resources and save money in reduced disposal costs. With a little creativity and flexibility, you have all you need to get started.

Additional Resources

"Compost: Matching Performance Needs With Product Characteristics," CIWMB Publication #443-00-005.

CIWMB Publications about organics, construction and demolition debris recycling, and other subjects are available online at www.ciwmb.ca.gov/Publications/.

To order printed publications, call 1-800-CA-WASTE (in California) or (916) 341-6306, or write:

CIWMB
Publications Clearinghouse (MS-6)
P.O. Box 4025
Sacramento, CA 94812-4025

More information about organics, including yard and agricultural waste, is available from www.ciwmb.ca.gov/Organics/. More information about construction and demolition debris recycling is available from www.ciwmb.ca.gov/ConDemo/default.htm.

For information on paper waste reduction, see www.ciwmb.ca.gov/Paper/. For a complete list of waste prevention resources see www.ciwmb.ca.gov/WPIE/ or www.ciwmb.ca.gov/BizWaste/Index.htm. Also see www.ciwmb.ca.gov/WPW/.

For assistance with this subject or any related subject, call the CIWMB Waste Prevention Information Exchange at (916) 341-6363 or e-mail wpinfoex@ciwmb.ca.gov.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, Flex Your Power and visit www.consumerenergycenter.org/flex/index.html.

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